

INTERSTATE COMMERCE COMMISSION

WASHINGTON

REPORT NO. 3565

ATLANTIC COAST LINE RAILROAD COMPANY

IN RE ACCIDENT

AT DILLON, S. C., ON

APRIL 20, 1954

SUMMARY

Date: April 20, 1954

Railroad: Atlantic Coast Line

Location: Dillon, S. C.

Kind of accident: Collision

Equipment involved: Passenger train : Motor-truck

Train number: 376 :

Engine number: Diesel-electric :
units 502, 750,
and 501

Consist: 12 cars :

Estimated speeds: 52 m. p. h. : 2 m. p. h.

Operation: Timetable, train orders, and
automatic block-signal system

Tracks: Double; tangent; 0.20 percent
ascending grade northward

Highway: Tangent; crosses track at angle of
90°; level

Weather: Clear

Time: 7:57 a. m.

Casualties: 9 injured

Cause: Motor-truck occupying rail-highway
grade crossing immediately in front
of approaching train

INTERSTATE COMMERCE COMMISSION

REPORT NO. 3565

IN THE MATTER OF MAKING ACCIDENT INVESTIGATION REPORTS
UNDER THE ACCIDENT REPORTS ACT OF MAY 6, 1910.

ATLANTIC COAST LINE RAILROAD COMPANY

May 10, 1954

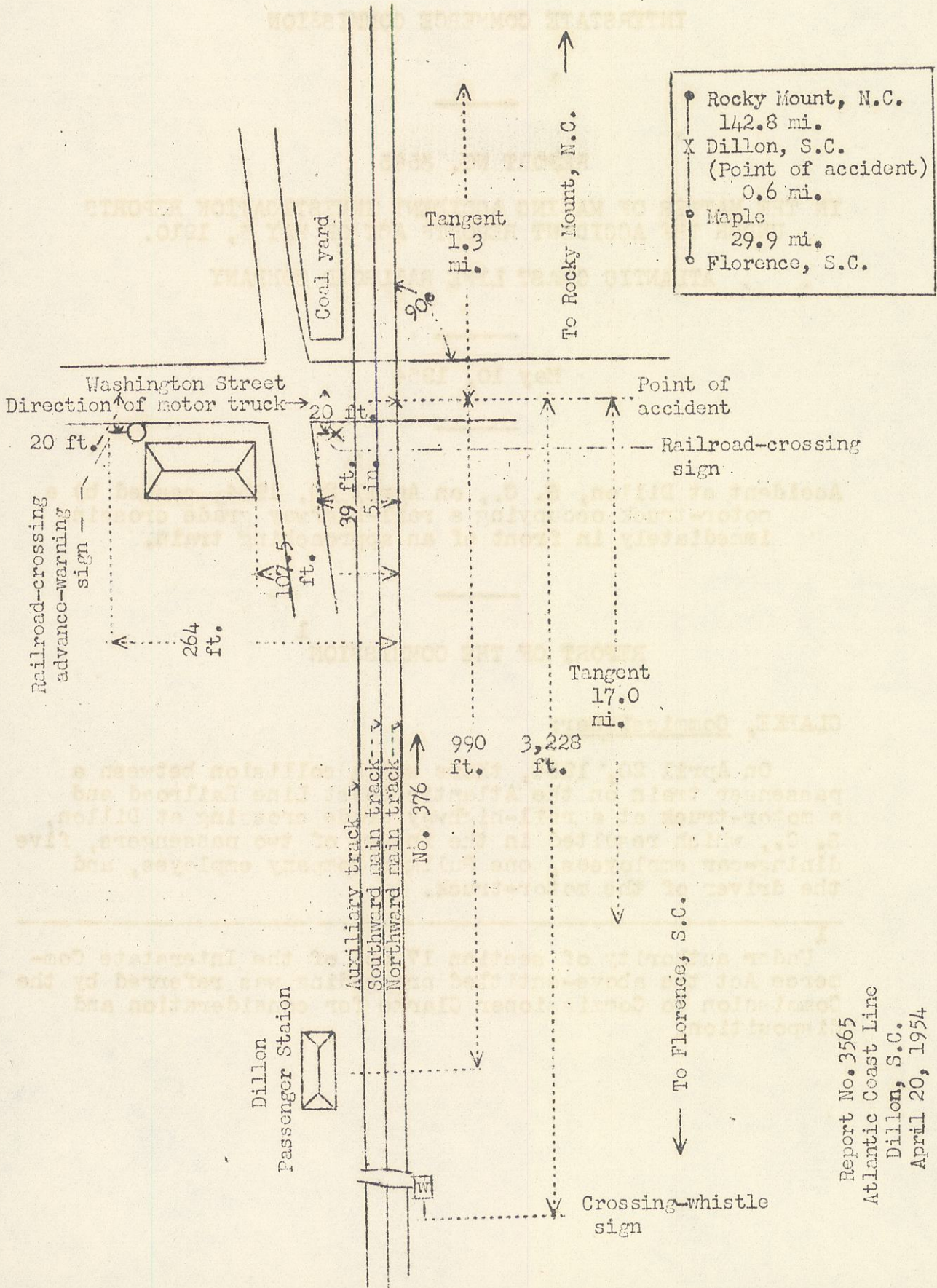
Accident at Dillon, S. C., on April 20, 1954, caused by a
motor-truck occupying a rail-highway grade crossing
immediately in front of an approaching train.

REPORT OF THE COMMISSION¹

CLARKE, Commissioner:

On April 20, 1954, there was a collision between a
passenger train on the Atlantic Coast Line Railroad and
a motor-truck at a rail-highway grade crossing at Dillon,
S. C., which resulted in the injury of two passengers, five
dining-car employees, one Pullman Company employee, and
the driver of the motor-truck.

¹
Under authority of section 17 (2) of the Interstate Com-
merce Act the above-entitled proceeding was referred by the
Commission to Commissioner Clarke for consideration and
disposition.



Report No. 3565
Atlantic Coast Line
Dillon, S.C.
April 20, 1954

Location of Accident and Method of Operation

This accident occurred on that part of the Northern Division extending between Florence, S. C., and Rocky Mount, N. C., 173.3 miles. In the vicinity of the point of accident this is a double-track line, over which trains moving with the current of traffic are operated by timetable, train orders, and an automatic block-signal system supplemented by an automatic intermittent inductive train-stop system. The accident occurred on the northward main track at a point 30.5 miles north of Florence and 990 feet north of the passenger station at Dillon, S. C., where the railroad is crossed at grade by Washington Street. At this point an auxiliary track parallels the main tracks on the west. The main tracks are tangent throughout a distance of 17.0 miles immediately south of the point of accident and 1.3 miles northward. The grade is 0.2 percent descending northward at the point of accident. Washington Street is tangent throughout a considerable distance on each side of the crossing. It intersects the railroad at an angle of 90°. West of the crossing, Washington Street is 27 feet in width. The crossing is 38 feet in width. Planking is provided on each side of each rail, and the remaining area of the crossing is surfaced with bituminous material. Except at the crossing, the street is unpaved. From the west the grade is practically level throughout a considerable distance, approximately 10 percent ascending 10 feet to the crossing, and level over the crossing.

A circular railroad-crossing advance-warning sign, 30 inches in diameter, is located 20 feet south of the center-line of the street and 264 feet west of the northward main track. This sign is mounted on a mast 5 feet 3 inches above the level of the street. It bears two diagonal lines intersecting at right angles and the letters "RR" in black on a yellow background. A standard cross-buck railroad-crossing sign is located 20 feet south of the center-line of the street and 39 feet 5 inches west of the center-line of the northward main track. This sign is mounted on a mast 10 feet 1 inch above the level of the street. It bears the words "RAILROAD CROSSING" in black on a white background. A sign bearing the figure "3" and the word "TRACKS" is mounted on the mast under the cross-buck sign. A standard 30-inch octagonal stop sign is mounted on the same mast 3 feet 5 inches above the level of the street. This sign bears the word "STOP" in black on a yellow background. A crossing-whistle sign for north-bound trains is located 3,228 feet south of the crossing.

This carrier's operating rules read in part as follows:

14. ENGINE HORN OR WHISTLE SIGNALS

NOTE.--The signals prescribed are illustrated by "o" for short sounds; "___" for longer sounds. * * *

Sound

Indication

* * *

(1) ___ o ___

Approaching public crossings at grade. To be prolonged or repeated until crossing is covered.

* * *

30. The engine bell must be rung * * * while approaching and passing public crossings at grade * * *

The South Carolina Uniform Acts Regulating Traffic on Highways read in part as follows:

ARTICLE XII

Special Stops Required

* * *

SECTION 104: Certain Vehicles Must Stop at All Railroad Grade Crossings.

(a) The driver of any motor vehicle carrying * * * explosive substances or flammable liquids as a cargo or part of a cargo, before crossing at grade any track or tracks of a railroad, shall stop such vehicle within 50 feet but not less than 15 feet from the nearest rail of such railroad and while so stopped shall listen and look in both directions along such track for any approaching train, * * * and shall not proceed until he can do so safely. After stopping as required herein and upon proceeding when it is safe to do so the driver of any said vehicle shall cross only in such gear of the vehicle that there will be no necessity for changing gears while traversing such crossing and the driver shall not shift gears while crossing the track or tracks.

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Motor Carrier Safety Regulations of the Commission read in part as follows:

Part 192--Driving of Motor Vehicles

Section 192.10 Railroad grade crossings; stopping required. * * *

* * *

(c) Any cargo tank, whether loaded or empty, used for the transportation of any dangerous article as defined in the regulations of the Commission shall, upon approaching any railroad grade crossing, make a full stop not more than 50 feet, nor less than 15 feet from the nearest rail of such railroad grade crossing, and shall not proceed until due caution has been taken to ascertain that the course is clear; * * *

Gasoline in quantities of over 10 gallons is defined as a dangerous article in the Code of Federal Regulations pertaining to transportation.

The maximum authorized speed for passenger trains is 90 miles per hour. It is restricted to 60 miles per hour through the City of Dillon.

Description of Accident

No. 376, a north-bound first-class passenger train consisted of Diesel-electric units 502, 750, and 501, coupled in multiple-unit control, three express cars, one storage-mail car, one baggage car, five coaches, one dining car, and one sleeping car, in the order named. The eleventh car was of lightweight steel construction, and the other cars were of conventional all-steel construction. The Diesel-electric units and the fifth, sixth, seventh, and eleventh cars were equipped with tightlock couplers. This train passed Maple, 0.6 mile south of Dillon and the last open office, at 7:57 a. m., 2 minutes late, and while moving at a speed of approximately 52 miles per hour, as indicated by the tape of the speed recording device, it struck a motor-truck at the rail-highway grade crossing at Washington Street in Dillon.

The vehicle involved was a tractor and semi-trailer owned by Beard-Laney, Inc., Camden, S. C. The driver, who was the sole occupant, held North Carolina operator's license No. 1287324 and chauffeur's license No. 27230. The tractor was a 1952 model Mack. It bore North Carolina license No. F-65789. It was powered by a six-cylinder gasoline engine and was provided with an enclosed cab and with dual wheels and tires at the rear. The semi-trailer consisted of a 5,050-gallon tank mounted on tandem axles with dual wheels and tires. Both the tractor and the semi-trailer were equipped with air brakes. At the time of the accident the cargo consisted of 5,050 gallons of gasoline. It was loaded at Wilmington, N. C., and was to be delivered in Dillon. The total weight of the vehicle and cargo was 54,000 pounds, and the total length of the combined tractor and semi-trailer was 43 feet 3 inches. This vehicle was moving eastward on Washington Street at a speed of about 2 miles per hour when it entered upon the crossing and was struck by No. 376.

The Diesel-electric units, the first four cars, and the front truck of the fifth car of No. 376 were derailed. The train stopped with the front of the locomotive 670 feet north of the point of accident. The derailed equipment stopped approximately in line with the track. A separation occurred between the first and the second cars, apparently as a result of debris coming in contact with the uncoupling lever. There were no other separations between the units of the train. The fourth car leaned toward the west at an angle of approximately 25 degrees. The other units of the train remained approximately upright. The trucks and the appurtenances below the floor level of the derailed equipment were somewhat damaged during the derailment. The cargo of the semi-trailer became ignited, and the Diesel-electric units and the first, fifth, and sixth cars were somewhat damaged by fire.

The tractor and the semi-trailer were separated as a result of the collision. The tractor stopped upright, and approximately 70 feet east of the northward main track. The semi-trailer stopped approximately 100 feet north of the point of accident and 25 feet east of the northward main track. It was demolished.

The weather was clear at the time of the accident, which occurred about 7:57 a. m.

During the 30-day period preceding the day of the accident, the average daily movement over the crossing was 29.67 trains. During the 24-hour period beginning at 12 noon, April 26, 1954, 434 automobiles, 160 trucks, 1 bus, and 3 other vehicles passed over the crossing.

Discussion

As No. 376 was approaching the point where the accident occurred the enginemen were maintaining a lookout ahead from the control compartment at the front of the locomotive. The members of the train crew were in various locations in the cars of the train. The headlight was lighted brightly. The brakes of the train had been tested and had functioned properly when used en route. There are several rail-highway grade crossings between Maple and the point where the accident occurred, and the enginemen said that the engineer sounded the grade-crossing whistle signal in the vicinity of Maple and continued to sound the horn as the train moved between Maple and the crossing at Washington Street. The bell was ringing during this time. The enginemen said that when the front of the train reached a point about 350 feet south of Washington Street they observed the motor-truck moving eastward across the auxiliary track at a speed which they thought was between 10 and 15 miles per hour. It appeared that the truck would not stop short of the northward main track, and the engineer immediately made an emergency application of the brakes. According to the tape of the speed recording device, the speed was approximately 58 miles per hour when the brake application became effective and 52 miles per hour when the collision occurred. The rails were sanded automatically after the brakes were applied in emergency. After the accident occurred it was found that the rails had been sanded throughout a distance of 270 feet immediately south of the crossing.

The driver of the motor-truck said that he was familiar in a general way with the roads and streets in the vicinity of the point of accident but he had never before crossed the tracks at this point with a gasoline truck. He said that as he approached the crossing it was necessary for him to stop for another truck which entered the street in front of him. He then proceeded eastward and stopped a second time before entering the crossing. He looked southward along the tracks and did not see or hear an approaching train.

A coal yard is located in the northwest angle of the intersection, and as he started the truck forward he looked northward for any train which might be approaching from that direction. He first observed No. 376 approaching and heard the sound of the pneumatic horn as the front end of the tractor was crossing the northward main track. He attempted to increase the speed of the truck, but the rear end of the semi-trailer was struck by No. 376 before it cleared the crossing. The driver thought that the truck was moving at a speed of about 2 miles per hour when he saw the train approaching and that it was moving at approximately the same speed when the collision occurred. He said that the windows of the cab were open and that there was no condition of the vehicle which would interfere with the normal operation.

After a vehicle moving eastward on Washington Street passes the end of a building located 107 feet 6 inches west of the center-line of the northward main track, the driver has an unobstructed view of an approaching north-bound train throughout a distance of 1,700 feet immediately south of the crossing. From points 45 feet and 39 feet west of the center-line of the northward main track the driver has an unobstructed view of an approaching north-bound train throughout distances of 5,000 feet and 2.6 miles, respectively.

Cause

This accident was caused by a motor-truck occupying a rail-highway grade crossing immediately in front of an approaching train.

Dated at Washington, D. C., this tenth day of May, 1954.

By the Commission, Commissioner Clarke.

(SEAL)

GEORGE W. LAIRD,

Secretary.